SNAPSHOT 1979

NB Bill Bates

DRAFT TO DEBBIE

Bill's Document Handler

'E.T'
Baker plate
Chaos of " "
Sequences " " "
Queries to answer
Automatic Work-filling

INFINITELY
RECURSIVE
& HIERARCHICAL
may be ~~picked up~~
left incomplete
& picked up

10354

MJG
B.U

TRAC version four = OFFICIAL

disk
rolly fetch tape
servo
RL (read last char. input) (saves defun temporaries)

OTHER TRAC stuff?
move pointer ~~left~~
by segment

10354

Wishes: 50% → 55%

Negatives, Adverts, 10% for Jones,

Unacceptable = ~~20~~ 20% [illegible]

~~If~~ they want the profits
of [illegible]
they need to give me
my share

CTR DISTR

10354

GFT

Pops

~~(+ recess~~

~~or: Mo~~ Flyer

~~Golden Age of Broadcast~~ 8.

✓ Fraser et al., Aristotle Crossis

12.

'PAPA —
I ought you'd enjoy Rudy about
someone else with an [illegible] shipping
case Ted'

✓ Othello 10,00

'For Pops —
Since you like dominoes,
you ought to love this!"
Ted'

1035

OPT
Sale & Lease

10358

Amphigory No

$6.

'For Sale and Study
for Text

Oral,
Middle-American
prosody.

Typeface
and ____'.

GFT

LECR

10358

Maysie

Aunt ~~Kate~~

Ellis, Kate

Ellen Kolchin [4 Jan 78]

Peter & Ann

GET
BU

Ala Ruddigh & Rolf. Olson
Buffalo Bill & the Indians
(11¢)

Malcolm C. Olson, Unaccessible
Risk (Nuclear Power) (11¢)

Robert Cover, The Public Burden
$12

T03 635

GFT

Dan & Dawn

& Devon

Othello set 10.

Escher

Kaleidocycles

(for Papa)

Amphigory 1.00 6.00

Escher, Kaleidocycles 9.00

'For the 3D Dunnings
from Papa'

A Child's Book of
Old Nursery Rhymes 3.00

103588

GF +
Mo & Wes

✓ In This Proud Land (1·x) (Any Popa) 9.00

~~Escher Kaleidocycles (Any Type) 9.00~~

~~Gorey Amphigorey Too~~

✓ The Golden Age
of Broadcast 8.00
'Wk/ove.'

GFT

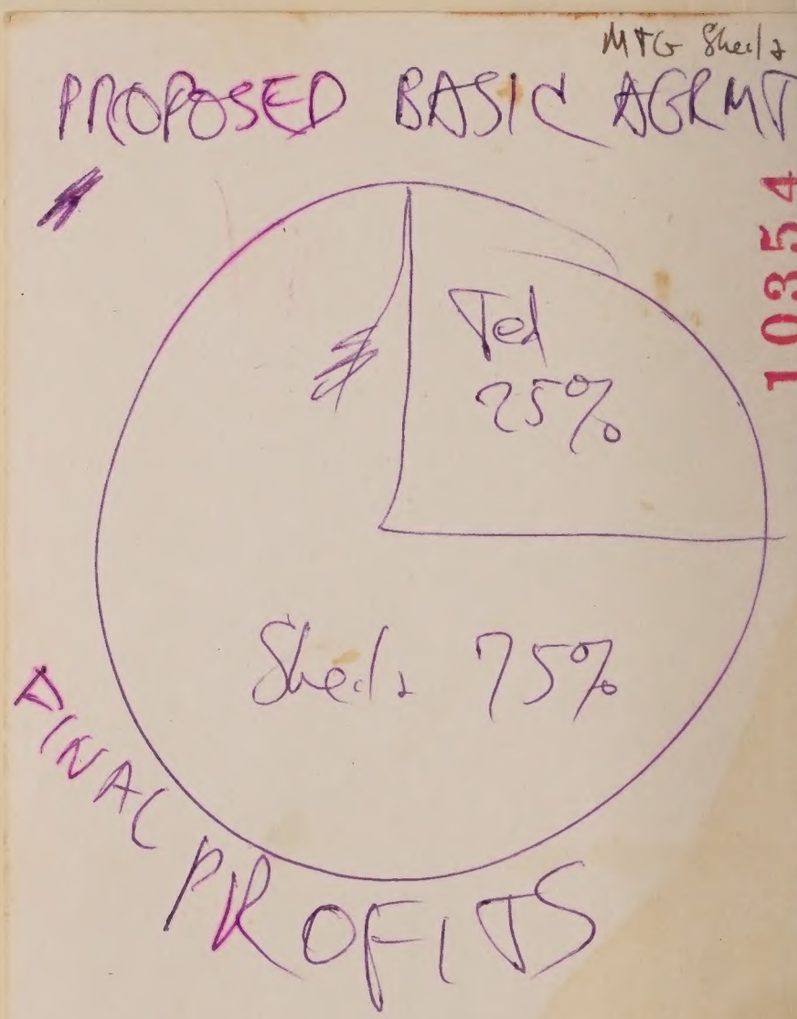
Horns & Stitch: 3-Way doll of Ruby Hood, Grandmother, Wolf

'with love.'

10358

MTG Shell

PROPOSED BASIC AGRMT.



FINAL PROFITS

10354

MTG
B11
DH 2

10354

HE SUGGESTS
THAT
LEGAC BOX
BE IN A
FILL-THE-BLANK
FORM.

GFT
ENN

1035

Anything Goes #6.

'NONE IO! Does this rhyme with 'Diggy-Doo' or 'stay blue? Love ya ~ Bzl.'

✓ 'Tricky Mickey' Magic Colorforms (w green & red wheel) 2.50

'For E. Noresca & Nelson. A small child's toy, but one which may give a small some fascinating mechanical complexity. Enjoy.'

✓ MFA Repro: Escher Kaleidocycles 9.

✓ Joe's pocket book of Space Exploration 6.

✓ The War Game (artifacts of battles) 4.50

'Dear Nunk, Yes you may find me a little crisp, but perhaps historically edible. Love from your uncle pappy.'

✓ Venture gone $1 (cashed)

✓ Mondo gone 'For ENN — would this be for Sol's name Mondo? yr Mom.' $1 (cashed)

✓ Sneaky Feats 'NUNK w luv T'

✓ Star Wars Blueprints 'For our own Luke Skywalker — may the FORCE BE WITH YOU! 261 - Mom' 2.50

✓ Barrons kids books: 7.00

Chairman, Easter Mouse, Thanks, & Jolly Man 1.25 1.25 1.25 1.25

'For Noresca — may you have a Barrooman New Year.'

Jan. 63

103631

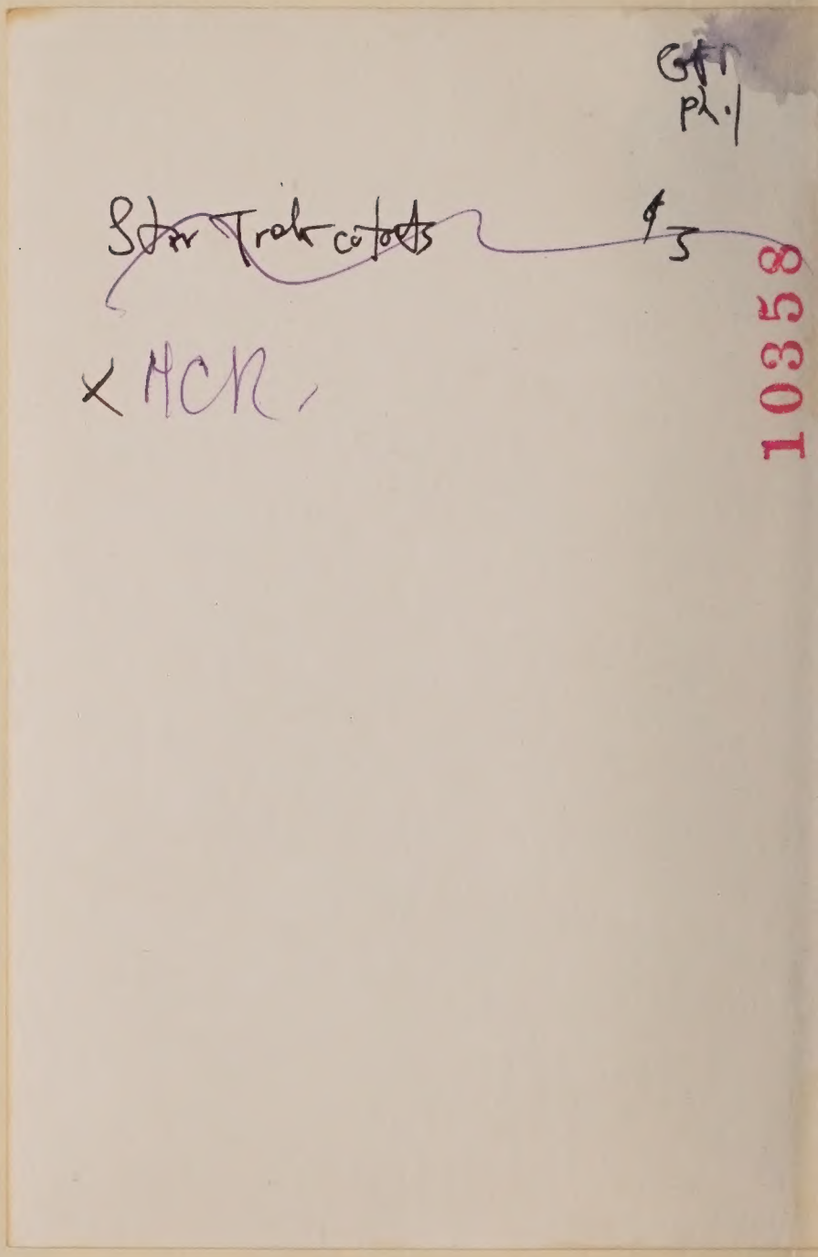
Buffalo Bill and the Indians filmscript $2
(bought for 1/2)

Amphigory Doo $6

Klibanion Box $9

Astra and Flondrix $4

(She also finally took back her earrings.)


GFT
Pl. 1
Star Trek cutouts
1/5
X MCR.
103558

Gift
DSN
10358

from 'Tool and Pops'

Cable knit sweater from
Ms. & Mtch. 23.00

'For Debbie — Greater Love Hath Abbott
than to Stock it like for a Closing sale —
cover from 'Tool and Pops'

The Golden Age of the Pontiac
('by Pops') 5.00

A Taste of History (Dutchess
County Recipes). 3.00
'For Debbie! Who Goodness Knows.'

Buffalo Bill and the Indians
(paperback ms.)

MIT
B.H

10354

Chart:

Peter Vrieze, also came.

⇒ Liked him 'pretty well.'

MAIN PARTS OF BOSS. SYSTEM, by him

Scheduler
Storage
Minimal Accts
Document Preparation

More copies of TIME

[26F78]

C.H. Fox

[26 F 78]

Von:
Check due date of reg.
arrangement of
ins. cards

28 F 78

[redacted]

Cal Blue X

[redacted]

BANK : more box

[redacted]

CALCULATION
POSTCARD
CUPS

Get 80L board
from Mullins

SMART MAILER
FOR CARDS
FOR JON

CLEANERS

[redacted]

$100 to [redacted]/Winkel.

4-7-8

[redacted]

SHORE:

MAKE NEW CARD - WALLET

26 F 92

F [redacted]

24 F 78

Goldberg: Trade

~~for Post: Magazine (xpt.)~~

Sea

Stolen Italy in Calif.

Portia

HCRs to friends, esp. Residents

~~TIME letter OUT~~

Postcard artwork OUT!

T & W 21F78 & 22F

PUSH LAWYERS ON ITY BITY TRUE!

More copies of TIME.

CALL POGGLE: LAST OF GRUNT?

~~TIME letter out~~

~~NEW RIM FOR VAN!~~ (times??)

LTR PAPA!

~~TYPEWR. TO REPAIR!~~

~~CALL DONATION-CARD GUY~~

~~TYPESET CARD! ACT OUT!~~

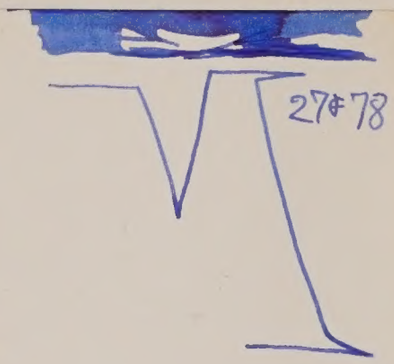
~~Call Sam Post~~

Thank-you note to Da & Bama.

CALL OAN.

Jan - Feb

SUMMARY



Get Snow SOL

4 books to the Millers

~~HACKAMT: Books, ...~~

~~Sh. Mtg. Mail~~

ARTYPE FOR SOFTWORLD, DINOSAURS UNITE

CALL SHEILA

CALL YALE

~~CALL JOHN L: UNIX~~
~~Hardware~~

DREX & RECENT CARDS
Tel. bills for Wes

STAIRS

BILLS

WRITINGS! UNIX memo to College
LTR DA COMM

SHARE piece, DINOSAURS UNITE
Software writers 2.
Portia Place

Ltr DSN?

Ltr DSN

11003

Dearest Debbie

This is a letter to contact directly what we have not been able to talk about.

I regret many things I have done because aware of how much you love me, which is a lot, and how much I love you, which is a great deal.

I'm sorry if it is neither my wish to betray you, as I have for several times,

LTR
D
Start #2

~~It~~ or do desse you, as you
say think I have been dog.
(I write this with tears
in my eyes.)

11003

LTR
D ~~Ent~~
Start #N

11003

I have gratefully learned
that you are far closer
to my ideal for I ever
imagined when ~~that~~ we were
together.

CTH
1

You are all too aware of
my compulsive roving eye.

11003

CTH
2

It's such a long shot.
(But so are a lot of
other things that are
coming through for me.)
But —

11003

11003

My variegated lusts for
what they things were, ~~at~~
but I feel less guilty about
them as I get the urge & work.

11003

I figure that I may
not get ~~straightened out~~
really clear in my mind
for another year or two.
What this means is pursuing
my most dreams one at a time
till I know what silly fantasy
they arrive at consummate from

11003

I know there are
so many levels of anger
and hurt that perhaps
we should each just for
good and all, and converse merely
about our safe areas of shared enthusiasm.
But perhaps there are more
things we should talk about.

Deb

11004

This is a long-term
discussion,
however much
I may seem
like an angry
ogre
even I think

LTR
Deb

11004

My exercise, at the future, which is now almost total

LTR
Deb

Our terrible fights

11004

LTR Deb

11006

Let us not confuse his
flirtation, but a
open and honest discussion
between people who care
about and other very much.
And the ~~the~~ hurry is not
that great. You and I
are survivors.

LTR Def

My dreams continue
to tell me
how and
I care for you

11006

LTR
Def

Nothing is surer than that
any approach I make
to you is followed by
my utter destruction
with someone else,
my total capitulation
or obsession elsewhere. ...

11006

LMR
Deb

11006

$ is a thousand-pound
shark on a five-pound line.
Your skill at reeling me in
has been
~~is~~ quite extraordinary...

LMR
Deb

11006

The question, correctly
formulated, goes something
like this: is the intermittent
but genuine love of a dippy
genius worth the pain?

After 5 Days, Return To
The Business Office
SWARTHMORE COLLEGE
SWARTHMORE, PENNSYLVANIA 19081

$4

PHILADELPHIA, PA 19101 PM 5 JAN 1978

JAN-5'78 PM PA. U.S. POSTAGE PB METER 658530 ~13¢

CHARGE RECORD 022911

SWARTHMORE COLLEGE

Charge to Sheldon Nelson

Date 10-31-77

QUAN.	ITEMS	AMOUNT
June	balance due	2 00
July	" "	2 00

Total Cost:
Discount:
Tax:
Final Cost: $4.00

Credit to Rents
of Shen

10M-2-75

INVOICE

SWARTHMORE COLLEGE

SWARTHMORE, PENNSYLVANIA 19081

$_____

Theodore Nelson
Box 128
Swarthmore, Penna. 19081

PLEASE RETURN THIS STUB WITH CHECK

DESCRIPTION	DATE	DEBIT	CREDIT	BALANCE
Balance Forward				
RENT	NOV 30 77	4.00		4.00

SWARTHMORE COLLEGE
SWARTHMORE, PENNSYLVANIA 19081

M-W-5-77

Return in five days to

Bell of Pennsylvania

402 Fayette Street
Conshohocken, Pennsylvania 19429

PRESORTED FIRST CLASS

CONSHOHOCKEN PA MAR 21 '78

U.S. POSTAGE 13¢

PB METER P.B. 612511

Form 1-2029-3-2

Mar 78
DCN
P 55D

DO NOT DAMAGE OR FOLD

IMPORTANT NOTICE

PLEASE DISREGARD IF PAID

TO CALL OUR BUSINESS OFFICE
DIAL 447-5000

THEODOR H NELSON
405 HARVARD AV
FLR 3
SWARTHMORE PA 19081

215 543 2111

4 043 765

AMOUNT DUE
$ 165.81

MAR 28 78

THIS DATE CAN BE MOST IMPORTANT TO YOU!

YOUR SERVICE WILL BE SUSPENDED IF CHARGES FOR TELEPHONE SERVICE ARE NOT PAID BY THIS DATE.

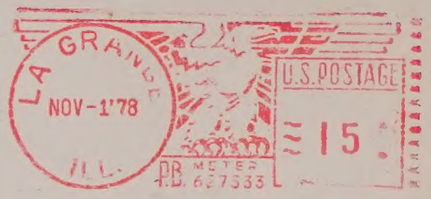
IF SERVICE IS **SUSPENDED** AND THEN **RESTORED**, A DEPOSIT MAY BE REQUIRED. SERVICE CHARGES WILL BE BILLED FOR THE TIME SERVICE IS SUSPENDED.

SHOULD SERVICE BE **SUSPENDED**, IT IS SUBJECT TO DISCONNECTION. IF **DISCONNECTED**, YOU WILL RECEIVE A FINAL BILL. THERE WILL BE A CHARGE TO RECONNECT SERVICE AND A DEPOSIT MAY BE REQUIRED.

WHEN REMITTING: PLEASE RETURN YOUR PAYMENT CARD AND THIS NOTICE.

Bell of Pennsylvania

La Grange State Bank
14 S. LA GRANGE ROAD
LA GRANGE, ILL. 60525



La Grange State Bank

14 South La Grange Road • La Grange, Illinois 60525
Phone: 352-4560

PAST DUE NOTICE

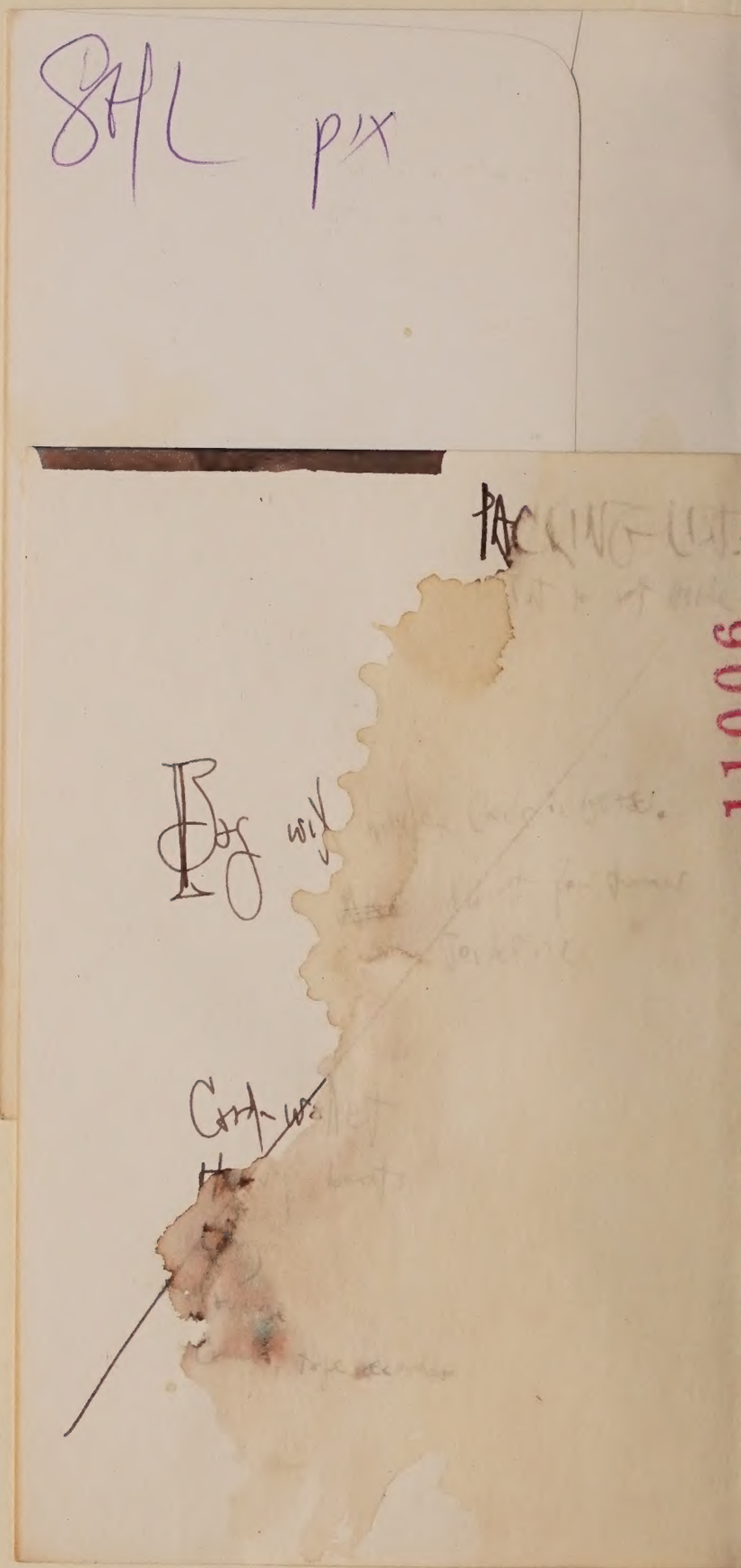
NOTICE DATE	PAYMENT DUE DATE	AMOUNT PAST DUE	LATE CHARGE	ACCUMULATED LATE CHARGE	TOTAL AMOUNT NOW DUE
10 31 78	10 20 78	159.99	5.00	10.00	169.99

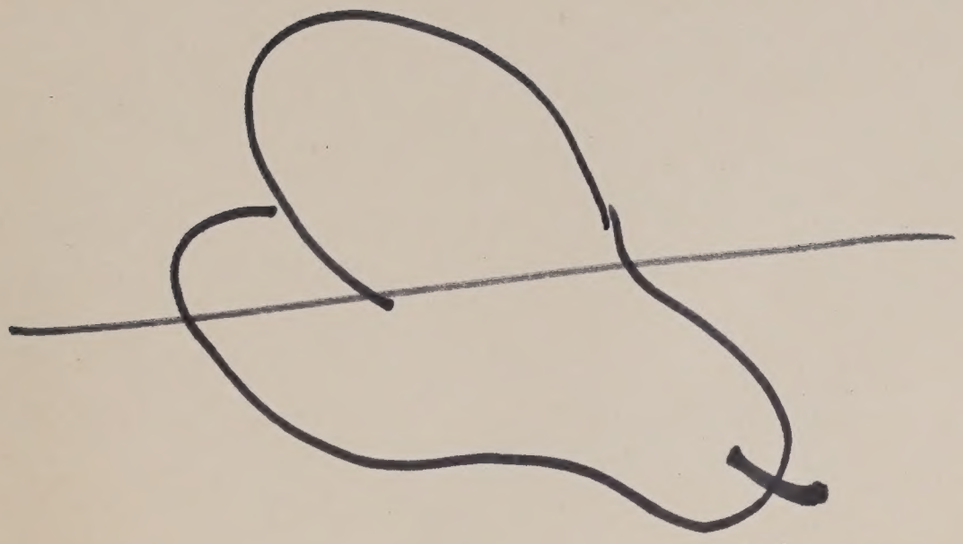
ACCOUNT NUMBER
150 48980

OUR RECORDS INDICATE THAT THE CURRENT INSTALLMENT LOAN PAYMENT SHOWN ABOVE HAS NOT BEEN RECEIVED

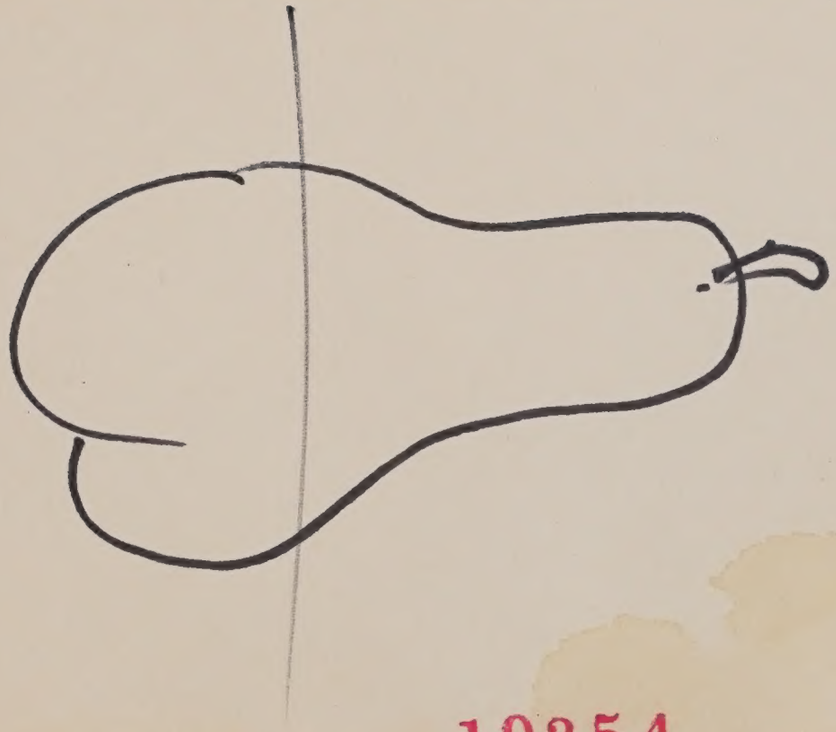
NELSON THEODORE H
SWARTHMORE COLLEGE
SWARTHMORE, PENNSYLVANIA
19081

Protect your credit and avoid additional charges by re-mitting without delay.





10354



10354

Morse
this at

15F78

BILLS

Tel: Bills for Wes

SMR
Wed.
15F78

Post Off: list

HELP = address
Xerox check
Xerox symbol

[redacted]

CALL HEISEN: Trademark

2 OCT 78

[redacted]

SMR SOL
TO CALIF.

2 OCT 78

[redacted]

ENN

To Edward Scientific?

To Hero?

To Finitite?

(see Moonie book)

[20 OCT 78]

[redacted]

UNIX MEMO

No College.

[redacted]

Call Fisher Rex

Call D'Antonio's

~~Call Steve: permutes.~~

Call Sam Post

Books to Miles

19F78

19F78

LTR PAPA

CALL DOMPIER Calif. - MUX vs. M.C.

CALL MARK

CALL SD: Eileen Prescott, Singer, Xu column

Cal Moore

ISBNs

2 of 3

THIS WEEK.

PROJECTS

Portia Piece

⇨ Miller Carl & Arrangements

XU prospectus to SD

CONTU speech to SD, Pops

fancy letter to time

Fancy letter to Detroit?

Additions to XU Prospectus?

ERRANDS

Car Radio to be fixed

CLEAN UP LDRY

BH: THERE'S A BUG IN 'DIVIDE.'

[8]

[redacted]

Note re CONTU to
[RUSH Mofoe
re College

[20F78]

[redacted]

Statements to CONTU re —

Depository Regt
of OBJs
— public-service function

Breakup of OBJs

Other technical points

21F78

SHL Agmt

Col Shells

Books to

HAROLD LEWIS
NAT. ENQUIRER
LANTANA FLA
33464

[redacted]

SHARE piece??

78

PW Release

[redacted]

Selected Papers

~~Sel Papers~~

Ve

~~SF 60~~

SFG01

F

10/78

~~Back to Heroes~~

~~Bio to Pop~~

~~Bio & Lib to COVOT~~

POWERS

COL. SUN POST (HAIRCUT

5 MOS. GRACE ON ©

⇒ IG in March!

[F3#78]

CALL HACKBOOK

Assn.
(SAT)

Frankl
Heller

CLB (2)
HCR (2)

GRANT
TO
HELLER

GFT
Fuke
(Soft.)

Glass candle
Herbs - More set off.

Books
FEUERSTEIN

DATE

103623

[9 Feb 78]

PLAZA 3-3863 BNDD REG. NO. AB 155 0171

ROBERT HENRY BROWN, M. D.

215 EAST 64TH STREET NEW YORK, N. Y. 10021

NAME Mr Theodore Hsu AGE

ADDRESS DATE

℞

For a hearing aid eval?

DISPENSE AS WRITTEN SUBSTITUTION PERMISSIBLE

THIS PRESCRIPTION WILL BE FILLED GENERICALLY UNLESS PHYSICIAN SIGNS ON THE LINE STATING "DISPENSE AS WRITTEN."

ALSO THIS WEEK

Conf. Software Dox

Gloss candle for sale

2228

Non-reduced PXX

~~XU~~ to SD

HCR to Silverman
Comp. Ops.

10356

AMPHC -
FOR Comp -

10354

Smore

Mercer address
GOT: holy table

10365

GFT, NYC

'Rainbow Race'
record & tape

10364

GFT
Steve Dwyer

Asphigore
Asphogore Too
Asterdogate

SMOG

GFT-bag for Pops,
from last year

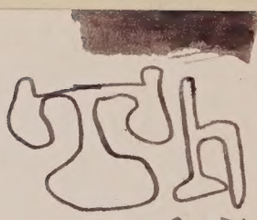
10362

Water Pit
Liq. Protein

~~CALL HUCKSBANK~~
~~CALL FIDDLER~~
~~R. count~~
Ville: R. count, V.C, milk pencil leads
JANE present
~~DAST~~

~~Plugs = Pops' call and~~
~~Va~~

~~Snapshot~~
~~R in for car~~
~~Prestype~~
Radial Snow tires?
Josie present
Media: pencil leads,



~~CALL PAGLIARO~~
CALL FIDDLER
CALL CONTU 202/ 557-0996
CALL TRUMPEFFER: Negs
CALL BOWERS
- STUART'S FATHER.
CA Consumers Union.

CA Mark: TIFFEN UTILITIES?
Call John Post's father.

[redacted]

INSTRUX TO MARK FOR ANIMATION

[20+78]

[redacted]

Pike

R. Shark:

CONNECTORS

~~For Pops, Vs~~

~~R. parrot. To repeat~~

F. Glint paper book

Bsk

Prototype

TIME

Rod 1 of 3

~~Hoodles, Kleecer~~ T. Roger / Bowl of S. Sprouts

Tiburon /

Heater

Archetype for Postcard

Repeated pxx to page

V. 1. e

Electronic
Visualization
Laboratory
PEFANA'

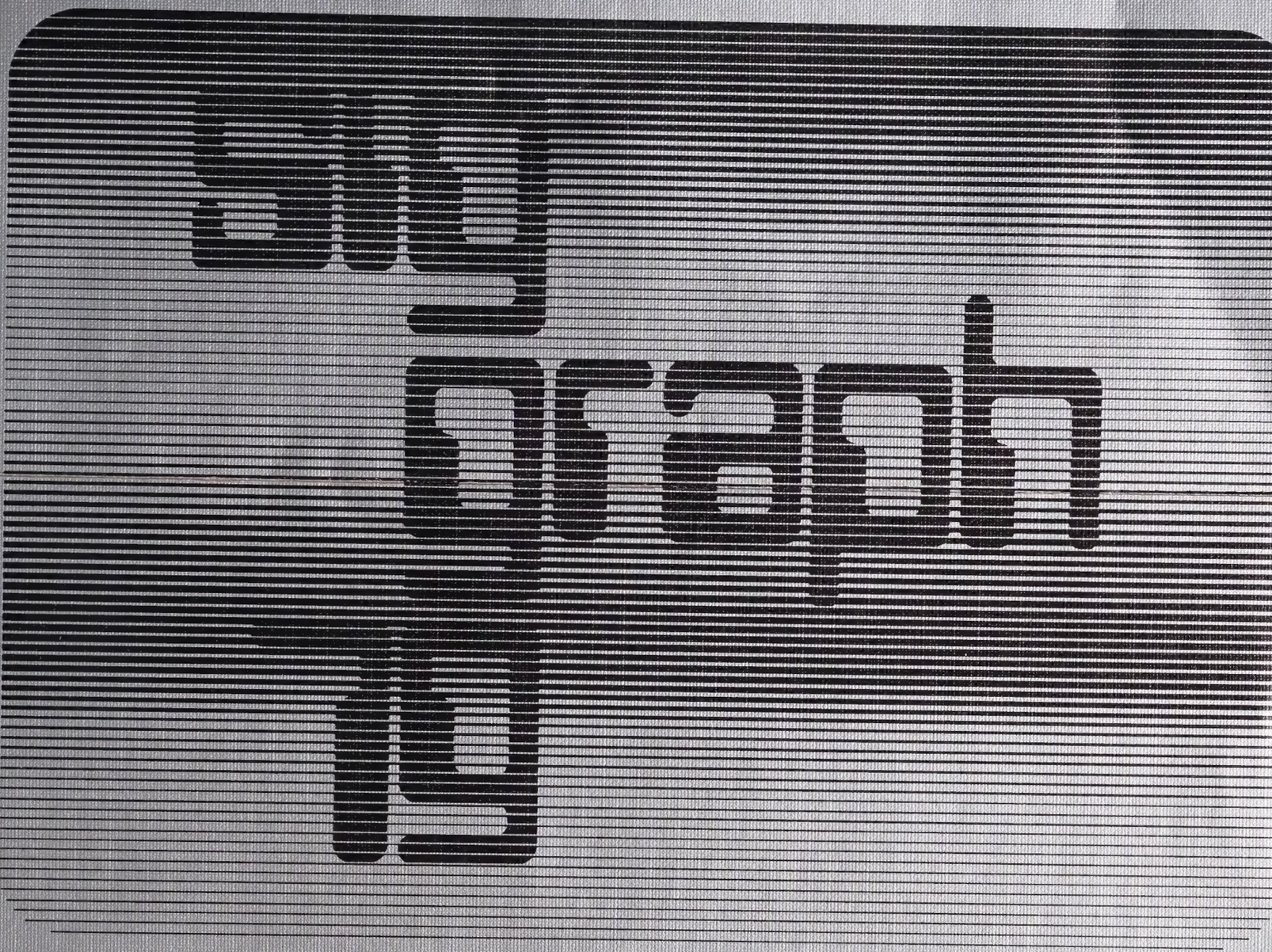
Department of
Information Engineering
and
School of Art and Design

University of Illinois
at Chicago Circle
Box 4348
Chicago, Ill. 60680

NOV - 2 '78 E28E

TED NELSON, Professor
SWARTHMORE College
Swarthmore PA

Box 128
Swarthmore
Pa



Association for Computing Machinery
1133 Avenue of the Americas
New York, N.Y. 10036

SIGGRAPH '79

Sixth Annual Conference on Computer Graphics and Interactive Techniques

August 8-10, 1979 in Chicago at the Hyatt Regency O'Hare.

Sponsored by ACM/SIGGRAPH

SIGGRAPH '79 will be held during Chicago Computer Visualization Week (August 6-10, 1979). The IEEE Pattern Recognition and Image Processing Conference (PRIP-79) will join us on August 8 and the ACM SIGPC (Personal Computing '79) Conference will join us on August 10 for joint sessions. A large trade show of graphics and image processing equipment, meetings of related user groups and workshops/tutorials are planned.

Papers, Films, Videotapes and Slides on the following topics are sought:

Innovative applications of computer graphics: in advertising, animation, architecture, art, biology, business, chemistry, cartography, database management, education, engineering, entertainment, home computing, manufacturing, medicine, product design and typesetting.

Research and development in graphics algorithms, software and interactive techniques: languages, data structures, input techniques, surface shading and reflection algorithms, display transformations, etc.

New hardware and firmware: low cost display, raster scan units, color graphics, digitizers and input devices, remote and stand-alone systems, etc.

CALL FOR PAPERS:

Deadlines:
December 1, 1978: 300 word abstract
January 15, 1979: first draft & figures
April 1, 1979: notification to authors
May 1, 1979: final draft
(Send papers to Bary W. Pollack)

Papers accepted for the conference will be published in a volume of conference proceedings to be distributed at the conference. Selected papers of exceptional interest will be submitted for publication in the **Communications of the ACM.**

CALL FOR SLIDES, VIDEOTAPES and FILMS:

Deadlines:
December 1, 1978: 100 word abstract
January 15, 1979: rough first draft
April 1, 1979: notification to authors
July 1, 1979: final slides, tape or film
(Send slides, tapes, films to Tom DeFanti)

Slides will be distributed on color microfiche. Tapes (¾" casette) and films (16mm) will be published after the conference in the **SIGGRAPH Video Review** on ¾" tape.

Please send the form below and an abstract by December 1, 1978 to the program chairman, Bary W. Pollack.
For further information, call: (604) 228-6794

General Chairmen:
Tom DeFanti and Bruce H. McCormick
Department of Information Engineering
University of Illinois at Chicago Circle
Box 4348 Chicago, Illinois 60680
(312) 996-2315

Program Chairman:
Bary W. Pollack
Department of Computer Science
University of British Columbia
2075 Wesbrook Place
Vancouver, B.C. Canada V6T1W5
(604) 228-6794 or 228-3061

SIGGRAPH '79:

I intend to submit ☐ a paper ☐ slide(s) ☐ videotape ☐ film
to SIGGRAPH '79 on the topic:_____

Name:_____

Telephone:_____

Affiliation:_____

Address:_____

City:_____ State:_____ Zip:_____

Hi Ted - FYI - Tom

CHICAGO: The City and Its Artists 1945-1978

Guest Curator, Diane Kirkpatrick

Assisted by
Patricia Anderson
Carla Bradsher-Fredrick
Deborah A. Deacon
Kathleen Gonchoroff
Judith Keller
Charles A. Lewis
Michael Marlais
Diane Tepfer Robbins
Matthew Rohn
Ellen Schaller
Mary Steffek
Barbara Tannenbaum
Bradley Taylor
George Vargas
Cynthia Yao

Catalogue edited by
Charles A. Lewis
and Cynthia Yao

The University of Michigan
Museum of Art
March 17 - April 23, 1978

IMAGING AND THE MACHINE

In recent years Chicago has quietly become the home of two pioneering research efforts to help people live creatively with the new science and technology which has come to dominate so much of our world.[1] One research effort is centered in the work of Sonia Landy Sheridan who founded the Generative Systems Program at the School of the Art Institute of Chicago (SAIC) in 1970. The program name describes a particular mind-set which Sheridan hopes will be encouraged by the program's approach:

> [It] emphasizes that Generative Systems is not primarily equipment, machines, but an idea, an approach and a process that provides new dimensions to our continuing attempts to probe and express the emotional and intellectual lives of human beings.[2]

The second research effort revolves around the individual and team works of Thomas A. DeFanti, Phil Morton, Daniel J. Sandin, and Robert R. Snyder. Much of this work uses production facilities at the University of Illinois at Chicago Circle (UICC). There DeFanti, with the help of Sandin, developed a center called Circle Graphics Habitat as a people-centered space for interaction with new technology because:

> The high priests of technology use unwieldy systems to perpeturate cybercrud—the art of using computers to put things over on people. This mentality can be countered by bringing to people systems that are easily learned and used—"habitable" systems.[3]

Sheridan and the DeFanti-Morton-Sandin-Snyder team share several attitudes in their approaches to the goals for their art. They delight in the real-time properties of machine imaging. They emphasize interaction with the equipment and with other humans in the act of creation. They believe in expressing the process, flux, flow, continuum of our life in the space and time of the twentieth century. All of this means they place great emphasis on the total creative process from initial idea through final art object or art product. Interestingly, the central concepts of Sheridan and of the Circle Graphics Habitat artists carry into the present the humanistic dream of Laszlo Moholy-Nagy for his Chicago Institute of Design in the 1940s:

> The problem of our generation is to bring the intellectual and emotional, the social and technological component into balanced play; to learn to see and feel them in relationship . . . *Vision in motion* is simultaneous grasp. Simultaneous grasp is creative performance—seeing, feeling and thinking in relationship and not as a series of isolated phenomena. It instantaneously integrates and transmutes single elements into a coherent whole.[4]

Sonia Landy Sheridan had a long career within the more traditional art media before she began imaging with machines. She studied art in New York City, California, Taiwan and Tokyo and taught art in California and Taiwan before coming to the School of the Art Institute of Chicago in 1961. At SAIC during the 1960s she taught 2-D design, color, drawing, and printmaking. Although her students in the 1960s went into varied fields, the majority became painters, including the "Imagists" Roger Brown, Ed Flood, Phil Hanson, Ed Paschke, Frank Piatek, Christina Ramberg, and Barbara Rossi. In 1966 Sheridan's work with screenprinting brought her first significant contact with industry—a fruitful association with Mel Green at Chicago's Advance Process Supply Company. The support of Advance Process Supply Company was important for many of the interacting group projects which Sheridan organized at SAIC from 1966 to 1970, including silkscreen books in 1966 and 1967, the *Portable Postcard Exhibition* of 1969, and *Screen Prints '70*.

By 1969 her need for faster systems led Sheridan with her students to begin using SAIC's Xerox machine to reproduce ideas for sharing. Limited access to SAIC's machine prompted her to search for an affordable machine of her own. She purchased a used Thermofax and took it to the local 3M representative who opened to her the machine's thermal ability to make black-and-white images, stencils, and color transparencies. Instantly she began to experiment. The 3M representative also told her about a new 3M system, Color-in-Color, which she might be able to see by contacting Keith Gammon, head of the Color-in-Color Project at 3M's Chicago Office. After she had produced some images on the Color-in-Color system, Gammon put her in touch with Don Conlin, the system's Project Manager at 3M Headquarters in St. Paul, Minnesota. In the summer of 1970 she was the first Artist-in-Residence at 3M's Color Research Laboratories in St. Paul, where she worked especially closely with Dr. Douglas Dybvig, co-inventor of the Color-in-Color system. The stay at 3M was important to Sheridan as a significant step in establishing a model for the working together of the artist and the scientist:

> I feel that we have to get the tools of communication. . . . Industry is like the government—not really human beings. But . . . scientists and artists have to work together. People have to pool their efforts so they become one human being and not fractured specialists. . . . You can get to the individuals. You can get to the scientists. You can get to the technologists . . . They bring the missing parts.

For Sonia Landy Sheridan much of her art is connected with basic research that forges new understanding of the creative process and its relation to and use in our lives. The fruits of this research she freely shares with students and colleagues in art and science. For her

> The People's Fabric Project was to take people out of the artsy-craftsy, which is important because that's an extension of using your hands and your eyes and your skills to keep the . . . processes of creating things alive. Witness . . . the dress pattern . . . The People's Fabrics literally are to bring the . . . language, the communication process to people . . . I'm asking for the educated audience, the participatory audience.

The creative goals of the DeFanti-Morton-Sandin-Snyder group evolved slowly, influenced by the differing backgrounds and changing artistic experiences of the individual group members. DeFanti and Sandin came to art from science. DeFanti, currently Assistant Professor of Computer Science in Information Engineering, Chemistry, and the Computer Center at UICC, took his Ph.D. in Computer and Information Science. Sandin, an Associate Professor of Art at UICC, was originally a low energy nuclear physicist. Snyder, Assistant Professor of Art and Head of the Sound Program at SAIC, comes from a rigorous musical training with an interest in wedding electronic images and sounds. Sandin and Morton, Associate Professor of Art and Head of the Video Program at SAIC, have each worked with video art since the early 1970s. Gradually they developed an interactive performance mode of working together which laid the foundations for the more comprehensive works of the present four-man team.

The team's interactive performance art is centered around the electronic image-generating equipment of the Circle Graphics Habitat at UICC. The uniqueness of the DeFanti-Morton-Sandin-Snyder performances is formed in large part by the abilities of the combination of a particular computer graphics system and a distinctive video image processor. The Graphics Symbiosis System (GRASS) is a digital computer graphics programming language and software system which DeFanti co-developed as a graduate student at the Ohio State University under the direction of Dr. Charles Csuri. Unlike many computer graphics systems, GRASS allows real-time "control of moving images in full color . . . in time as well as space"[7] and thus is ideal for interactive performance with Sandin's Image Processor (IP) [which] is a patch programmable general purpose analog computer optimized for the real-time processing of video images."[8]

DeFanti, Morton, Sandin, and Snyder have as one goal the growth of creative and informed human interaction with modern technology. As Sandin has said:

> I think culture has to learn to use High-Tek machines for personal, aesthetic, religious, intuitive, comprehensive exploratory growth. [At school] one of the contexts that works for us when we teach is that we create an environment where people can work. We do a lot [of] setting up interactive environments where the audience can participate and play with the machines.

Both GRASS and the Image Processor are designed to be self-teaching systems. One of the first interactive video environments was set up in 1972 at St. Olaf College, Minnesota, by Sandin and Morton. Since then they and their students have invented numerous variations on the theme.

The interactive performance history of the DeFanti-Morton-Sandin-Snyder group perhaps goes back to January 26, 1973. On that date in a performance titled "Inconsecration of New Space," Sandin and Morton worked on the original Image Processor and were joined by Jim Wiseman on the Paik/Abbe Video Synthesizer. The newly completed black-and-white Image Processor took naturalistic images from film (fed through a film-chain), pre-recorded video tapes, and/or live video camera input and subjected them to various electronic transformations. The Paik/Abbe Synthesizer was used to colorize the images.

Sandin soon developed a color version of the Image Processor. DeFanti arrived at UICC with GRASS and set up Circle Graphics Habitat in which GRASS and Sandin's color Image Processor could function together. The space initially was designed for the production of educational tapes and indeed students and faculty have used Circle Graphics Habitat to create instructional tapes for Chemistry, Mathematics, Computer Science, Art, and Geology classes. But DeFanti, Sandin, and Morton soon saw that the new technology hook-up dramatically expanded the possibilities fo real-time performance video. Much experimentation followed, culminating in the first Interactive Electronic Visualization Event (EVE) which took place at UICC in April 1975. Individual artists from throughout the Chicago video community presented individual pieces. Snyder was lured down from SAIC to provide interactive sound for many of the events on a Fender-Rhodes electric piano.

The present DeFanti-Morton-Sandin-Snyder team crystallized during the first EVE with an interactive group performance later called *Peano Boogie*, which happened spontaneously without the careful pre-planning characteristic of preparation for the group's later works. Sandin describes how *Peano Boogie* happened:

Peano Boogie doesn't refer to the piano you play. It refers to a mathematician—although it's a piano piece—. . . who, in particular, investigated what he called 'monster curves' . . . . I developed a three-dimensional version of that on Tom's system . . . . Tom saw that figure and wrote something called *Trails* which made that a little program that takes any figure and keeps graduating endless displays . . . . At the end of the first EVE event, I was just going to let that run on auto-pilot—a completely automated program—and I had released almost all the controls except the size of the object. At the very end of the event, after we had told everybody to go away, Bob [Snyder] dropped into this funny boogie. People grabbed me and said "here, do it." I only had one knob left, so I did play with that knob. And Bob Snyder did the sound of the boogie, which I think is a way out to relax after all the harder music, and Phil [Morton] was hanging out and jumped on the Image Processor. That was a completely-jammed one-pass work.

Peano Boogie is preserved on video tape because says Sandin: "We always have the tape going."

DeFanti, Sandin, Morton, and Snyder put in months of pre-planning and rehearsal toward the performance of *Ryril* in the second EVE in April 1976. Says Sandin of their creative process in performance at this time:

It's an attitudinal thing . . . . In a sense we do everything at once. It isn't a layering process where you tape materials and then reprocess these materials and reprocess those materials. It all happens at once.

Ryril is a two-movement piece which weds families of generative abstract patterns in real-time and video space with the movements of a live dancer. Viewing the piece is akin to experiencing an hallucinatory visionary event. For *Ryril* Snyder brought an EMU sound synthesizer from SAIC. The sound component of the EVE performances is still imperfectly interactive. Snyder sits high above the performance space with a small video monitor on which he watches the combined output of DeFanti's, Sandin's, and Morton's actions:

I look at the image and read it. I scan to see different tempos, etc., and what I can relate to. For instance, I can alter the figure-ground relationship depending on which part I lock on to. The soundtrack which can contribute structural detail has always interested me.

Sandin says Snyder's present role is:

because he's much better than we are . . . . Measured against the normal graphic tools that artists have, we're incredibly flexible, but measured against the kind of tools that musicians have we're very inflexible . . . . For us to switch from one whole visual space to another whole visual space takes quite a bit of planning in terms of programming the instrument . . . [Bob] can play a boogie right after playing a very sophisticated sound cluster . . . . That comes from tradition and training and things like that that we don't have yet.

For the future Sandin and DeFanti are working on new multidimensional input devices which will increase the responsiveness of their systems by allowing control through such inputs as touch, sound, and various biological and environmental sensors. Sandin is also working on a digital version of the Image Processor. As he said in a recent application for a Guggenheim Fellowship:

I believe the most profound change in our present society to be the availability of personal computing power . . . . My goal is the development of personal computing systems that are optimized for enhancement of creative expression and interaction.

For the present, in the heart of Chicago, Sonia Landy Sheridan and the artists connected with Circle Graphics Habitat continue, all in their own ways, to invent models for the creative use of modern technology by individual human beings. Within this important context, the specific artworks created by these artists provide richly illuminating visions of hitherto unseen aspects of our world, its objects, its patterns, and its structures.

Diane Kirkpatrick

1. The author wishes to express deep gratitude to Sonia Landy Sheridan, Dan Sandin, Phil Morton, and Bob Snyder for the hours of conversation shared about their work and ideas and for copies of papers by all the artists in this section. Unless otherwise noted, quotes in this essay are from interviews by the author with the artists.
2. Sonia Landy Sheridan, "Generative Systems," *Afterimage I* (April 1972), p. 2.
3. Thomas A. DeFanti, Daniel J. Sandin and Theodore H. Nelson, "Computer Graphics as a Way of Life," *Computers and Graphics*, Vol. 1, p. 9.
4. Laszlo Moholy-Nagy, *Vision in Motion*, Chicago: Paul Theobald Publishers, 1947, p. 12.
5. Often she does not wholly understand the content of an Inner Landscape drawing when an image is first retrieved, but all are kept and eventually, the meaning becomes clear. For example, many images retrieved before she began working with imaging machines now seem to illustrate technological concepts she has since learned.

   There are no representations of these Inner Landscape images in this catalogue where Sheridan is represented solely by a cross-section of her works produced with imaging machines.
6. Sheridan, op. cit., p. 2.
7. DeFanti, "Summary of His Work," unpublished.
8. Sandin in Daniel Sandin, Jim Wiseman, and Phil Morton, "Inconsecration of New Space," January 26, 1973, information sheet accompaniment to interactive video performance on that date.
9. Introductory sheet distributed with data on the Image Processor.

49. *Tom DeFanti (top) and Dan Sandin (middle) in EVE Performance, University of Illinois at Circle Campus*, 1976, DeFanti-Morton-Sandin-Snyder

DeFanti, Morton, Sandin & Snyder

Members

Thomas A. DeFanti
Assistant Professor of Computer Science in Information Engineering, Chemistry and the Computer Center, University of Illinois at Chicago Circle Campus, Chicago, Illinois

Phil Morton
Associate Professor of Art and Head of Video Program at the School of the Art Institute of Chicago, Chicago, Illinois

Daniel J. Sandin
Associate Professor of Art, University of Illinois at Chicago Circle Campus, Chicago, Illinois

Robert R. Snyder
Assistant Professor of Art and Head of the Sound Program, School of the Art Institute of Chicago, Chicago, Illinois

Chronology of major events connected with development of DeFanti performance pieces:

1969-70	Sandin and his students use video as a real-time performer at UICC Art Building with instant poster during the Cambodian crisis. They also set up live situations fed through video cameras to monitors elsewhere in the building which began to build awareness of video as a real-time system.
1971-72	Sandin develops first Image Processor.
1972, October	Sandin and Morton set up an interactive video environment at St. Olaf College in Northfield, Minnesota. It incorporates an Image Processor and pre-recorded tapes.
1973, January	"Inconsecration of New Space." Sandin and Morton on the Image Processor joined with Jim Wiseman on the Paik/Abbe Video Synthesizer to create a live video performance with an intricate equipment set-up.
1973	DeFanti arrived at UICC with GRASS.
1973-75	Circle Graphics Habitat developed.
1975, April	The First Interactive Electronic Visualization Event (EVE), UICC, Rotunda SES East. Snyder joined Sandin, Morton, and DeFanti for the joint performance of *Peano Boogie*, providing sound on a Fender-Rhodes Acoustic piano.
1976, April	The Second Electronic Visualization Event, UICC, Rotunda SES CB. Snyder brought EMU sound synthesizer from SAIC to provide sound for *Ryril*, the major interactive performance piece by Sandin, Morton, DeFanti, and Snyder.

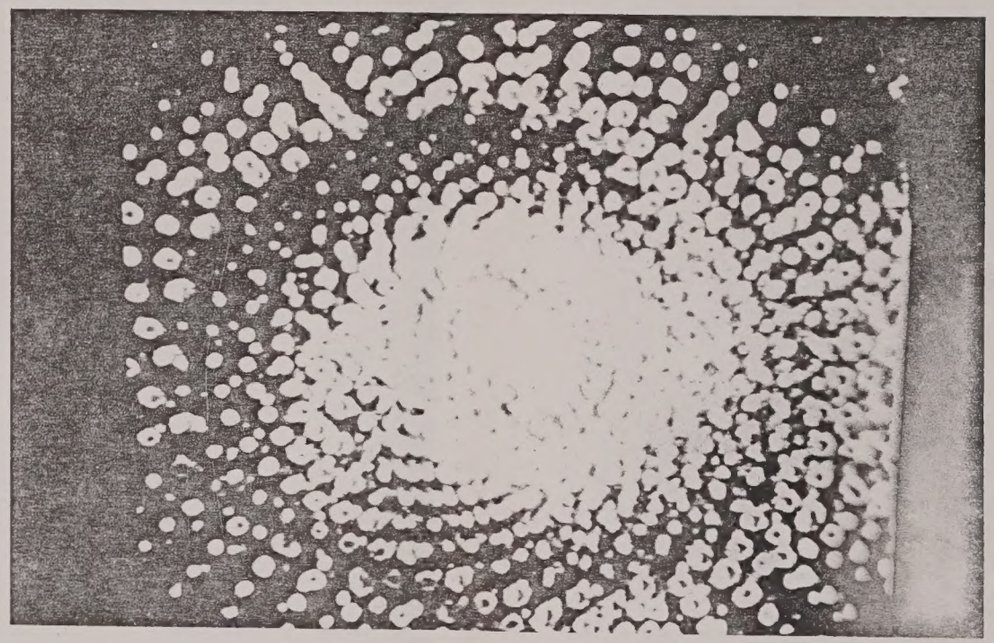
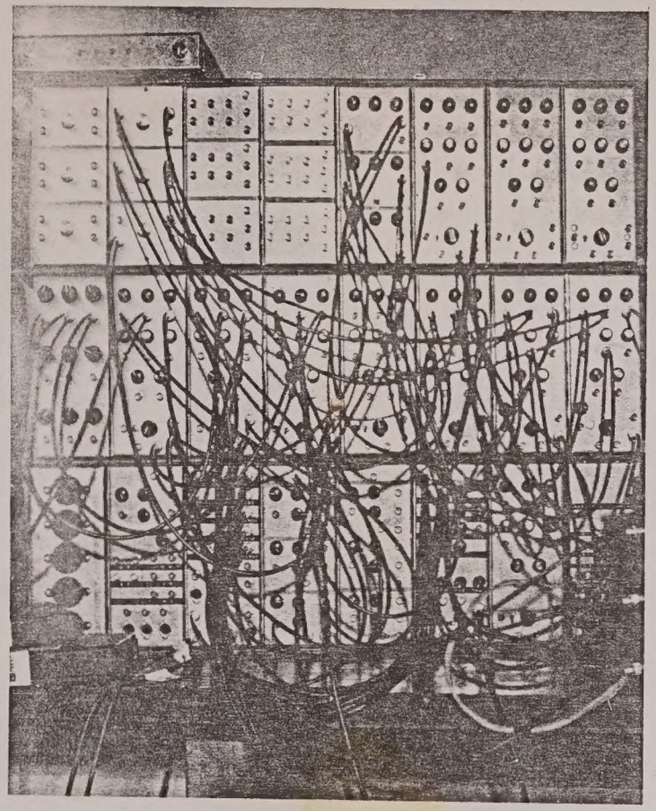


Image from Interactive Performance Piece RYRIL by DeFanti, Morton, Sandin, EVE, April, 1976, Photograph by Diane Kirkpatrick



Sandin Image Processor (detail), Photograph by Diane Kirkpatrick

Dan Sandin at work on DeFanti's GRASS system in Circle Graphics Habitat, Photograph by Diane Kirkpatrick

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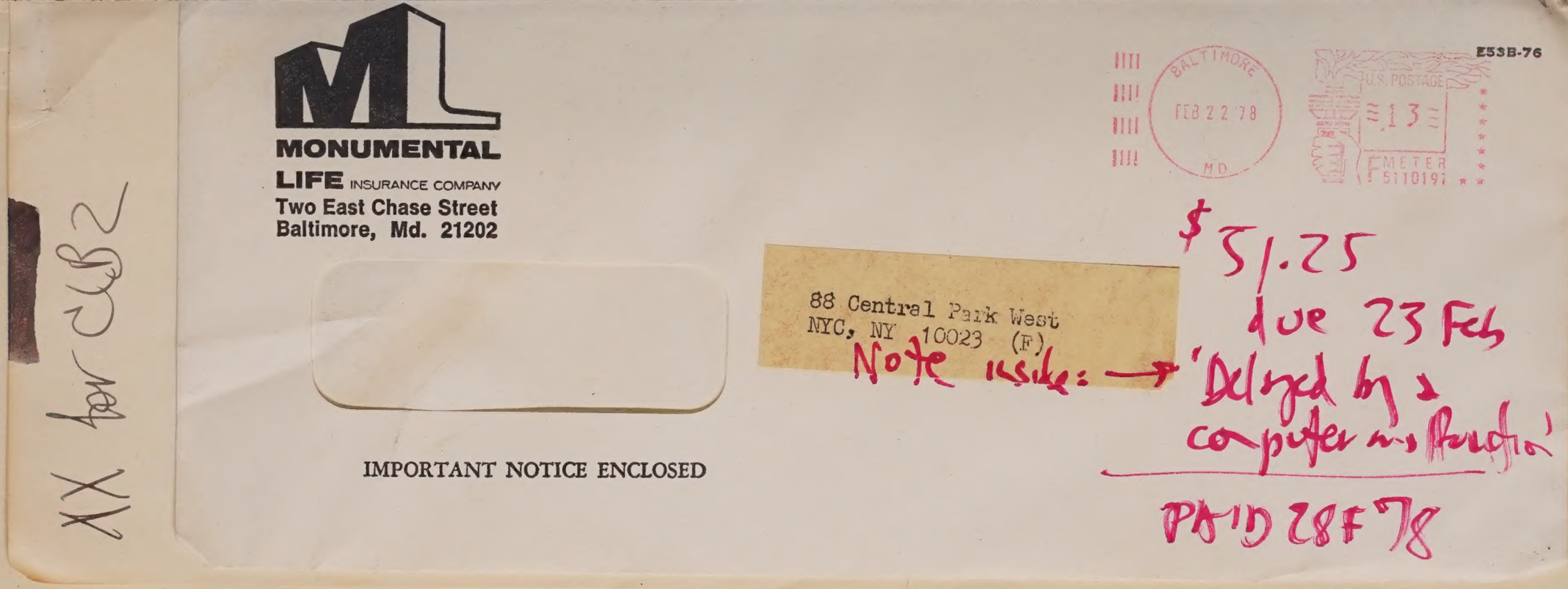

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